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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,365	04/24/2001	Ryan Paul Eidem	DAKTRONICS	6262

7590 03/22/2005

Hugh D. Jaeger
Suite 302
1000 Superior Blvd.
Wayzata, MN 55391-1873

EXAMINER	
TRAN, TAM D	

ART UNIT	PAPER NUMBER
2676	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/841,365	EIDEM ET AL.	
	Examiner	Art Unit	
	Tam D Tran	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/22/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-14, 16, 33, 34, are rejected under 35 U. S.C. 103(a) as being unpatentable over Reitan (USPN 5600574) in view of Lau et al. (USPN 6826307 B1), hereinafter simply Lau.

2. In regard to claim 1, Reitan teaches a process for calibrating an electronic sign (monitor), see col.33 lines 1-6, comprising the step of: using an imaging device to take an image of an electronic sign (using photometer 414 for taking luminance of the monitor); see Fig.4a, see col. 21 lines 40-45; and using that image to determine control values (commanded values) needed to bring the sign into uniformity (the result of the photometer reading are used to perform calibration of the display system), see col.21 lines 44-53, col. 33 lines 1-13. Reitan is silent about a photometer taking image of the electronic sign (monitor). However, Lau teaches a photometer taking image of the electronic sign (monitor). See col. 3 lines 15-44. It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the photometer of Lau into the testing process of display system of Reitan because a replacement of Reitan's photometer from the Lau's photometer would provide capturing images of the monitor to send to the computer for an advantage of using that image to automatically adjust the monitor.

3. In regard to claim 4, Reitan teaches the process for calibrating an electronic sign (monitor), wherein the electronic sign is a monochrome display. See col.4 lines 40-45.

4. In regard to claim 5, Reitan teaches the process for calibrating an electronic sign (monitor), wherein the electronic sign is a multiple color display. See col.4 lines 40-45.

5. In regard to claim 6, Reitan teaches the process for calibrating an electronic sign (monitor), wherein the electronic sign has red, green, blue color capability (it is inherence that every color display having this RGB capability). See col.4 lines 40-45.

6. In regard to claims 7, Lau teaches that imaging device is a digital camera. See col.3 lines 15-30.

7. In regard to claim 8, Reitan teaches the process for calibrating an electronic sign (monitor), wherein the electronic sign is multiple color display, see col.4 lines 40-45, and Lau teaches the imaging device distinguishes the multiple colors of the multiple color display of the electronic sign (camera is fitted with photopic transmissive filter which matches the CIE standard which read on distinguishing multiple color). See col. 3 lines 25-31.

8. In regard to claim 9, Lau teaches that the imaging device includes color filter to distinguish the multiple colors (camera is fitted with photopic transmissive filter which matches the CIE standard which read on distinguishing multiple color). See col. 3 lines 25-31.

9. In regard to claim 10, Lau teaches the imaging device is a video camera. See col.3 lines 15-45.

10. In regard to claim 11, Lau teaches that video camera is monochrome video camera. See col.3 lines 25-30

11. In regard to claim 12, Lau teaches that video camera is multiple color video camera (black and white camera which has more than one color). See col.3 lines 25-30.

12. In regard to claim 13, Lau teaches that image device includes CCD. See col.3 lines 15-30.

13. In regard to claim 14, Lau teaches that CCD includes a plurality of sensors, and wherein sensors of CCDs are arranged in rows and columns. See col.3 lines 25-30.

14. In regard to claim 16, Lau teaches image device including a lense (imaging optics 30). See col.3 lines 25-31.

15. In regard to claims 33, Lau teaches image device is a camera having a removable storage medium (frame grabber card), which removable storage medium, including the image of the electronic sign, is transferred to a personal computer for processing. See col.3 lines 35-43.

16. In regard to claim 34, Reitan teaches a process for calibrating an electronic sign (monitor), wherein the device is connected directly to a personal computer, such that the image is transferred to the personal computer (image review station) for determining the control values. See Fig.4a.

17. Claims 15, 17-32, are rejected under 35 U. S.C. 103(a) as being unpatentable over Reitan (USPN 5600574) in view of Lau et al. (USPN 6826307 B1) and further in view of Silverstein et al. (USPN 5642125), hereinafter simply Reitan, Lau and Silverstein.

18. In regard to claim 15, Reitan and Lau teach a process for calibrating an electronic sign, wherein the sensors in the image device are 756 x 581 pixels, (Lau's reference, col.3 lines 15-30). Reitan and Lau do not teach electronic sign including a plurality of pixels wherein sensors in

the plurality sensors in the imaging device exceeds pixels in the plurality of pixels in the electronic sign. However, Silverstein teaches an electronic sign (display) having 8 x 8 pixels. See silverstein's reference, col.10 lines 32-35, It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the electronic sign of Silverstein into the process for calibrating an electronic sign of Reitan and Lau because a replacement of the Reitan's monitor from the Silverstein's display would provide the number of sensors of the image device exceeding the pixels of the electronic sign for an advantage of capturing the image of the monitor at higher resolution.

19. In regard to claim 17, Reitan teaches each of the pixels of the plurality of pixels of the electronic sign are mapped to at least one sensor of the plurality of sensors of imaging device (acquiring luminance of the display which read on mapping luminance of the display to the sensors). See col.33 lines 5-10.

20. In regard to claim 18, Reitan teaches each of the pixels of plurality of pixels of the electronic sign being mapped to multiple sensors of the plurality of sensors of the imaging device (acquiring luminance of the display which read on mapping luminance of the display to the sensors). See col.33 lines 5-10.

21. In regard to claim 19, Reitan teaches the electronic sign including four corners, which four corners mark the image for mapping the each of pixels of plurality of pixels of electronic sign so as to assign corresponding multiple sensors of the imaging device (acquiring luminance of the display which read on mapping luminance of the display to the sensors). See Fig.4a, col.33 lines 5-10.

22. In regard to claim 20, Silverstein teaches step of dividing the pixels between the four corners into rows and columns corresponding to pixels rows and columns of the electronic sign. See Fig.2.

23. In regard to claim 21, Lau teaches step of dividing the plurality of corresponding multiple sensors assigned to each pixel of the electronic sign between the four corners into rows and columns corresponding to pixel rows and columns of the electronic sign. See col.3 lines 15-30.

24. In regard to claim 22, Reitan teaches step of providing a grid of small number of points on the electronic sign to correct the mapping for distortions (image degradation). See Fig.4a, col.7 lines 19-28, col.33 lines 1-13.

25. In regard to claim 23, Reitan teaches the distortions are caused by the lense of the imaging device (optical faults). See col.7 lines 19-28.

26. In regard to claim 24, Reitan teaches the distortions are caused by the angle of the imaging device to the electronic sign (electro-mechanical faults). See col.7 lines 19-28.

27. In regard to claim 25, Silverstein teaches the small number of points in the grid is from 16 to 20. See Fig.2b.

28. In regard to claim 26, Silverstein teaches the multiple sensors of the imaging device corresponding to a pixel of the sign are defined as an image pixel further comprising the step of averaging the value of the multiple sensors of an image pixel (intensity values being averaged after capturing and storing in memory). See col.3 lines 15-60.

29. In regard to claim 27, Silverstein teaches averaging the value of the multiple sensors of an image pixel. It is inherent that the image pixels are average for red, green, and blue. See col.3 lines 15-60.

30. In regard to claim 28, Silverstein teaches calculating the difference between maximum intensity and minimum intensity for pixels, which read on a difference between the determined value and a desired value is calculated for each sign pixel for red, green, and blue. See col.3 lines 53-62.

31. In regard to claim 29, Reitan teaches luminance reading from the photometer producing commanded value to actual the luminance that is a characteristic of luminance settings, which read on the calculated differences are used to readjust and control each sign pixel for red, green, and blue. See col.33 lines 10-13.

32. In regard to claims 30, 31, Reitan teaches a statistical characterization of electronic sign is determined (means, variance, minimum and maximum) for the calculated differences for each sign pixel for red, green, and blue. See col.17 lines 17-25 and col.33 lines 9-13.

33. In regard to claim 32, Reitan teaches the process for calibration the monitor, wherein the operator could perform the calibration and stop the calibration at any time which read on iterative repetition is continued until a desired statistical characterization is reached, which desired statistical characterization is indicative of acceptable uniformity. See col.33 lines 1-13.

Conclusion

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tam D. Tran** whose telephone number is **571-272-7793**. The examiner can normally be reached on MON-FRI from 8:30 – 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, **Matthew Bella** can be reached on **571-272-7778**. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tam Tran
T T
Examiner

Art unit 2676

Matthew C. Bella

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600